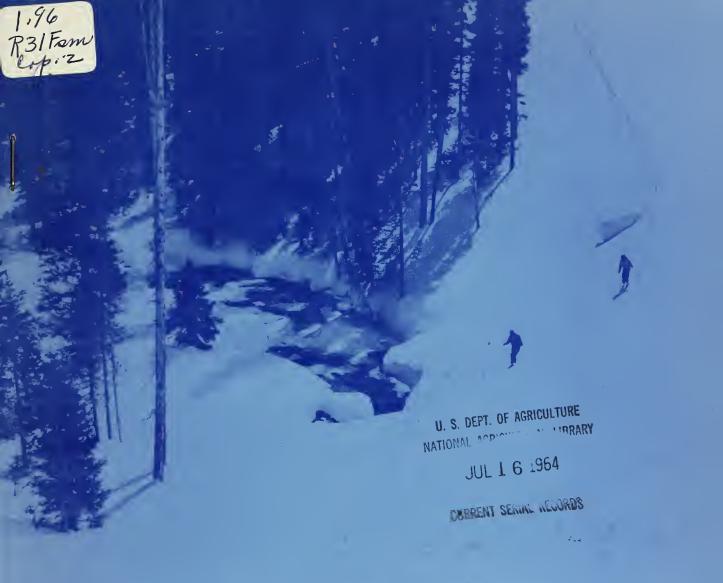
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Do not assume content reflects current scientific knowledge, policies, or practices.





WATER SUPPLY OUTLOOK

rederal - State - Private Cooperative Snow Surveys

for

COLORADO and NEW MEXICO

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE and

COLORADO STATE UNIVERSITY
STATE ENGINEER of COLORADO
and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service and other Federal, State, and private organizations.

MAR. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEBMAY)_	PORTLAND, OREGON	. ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MARMAY)	PALMER. ALASKA	. ALASKA S.C.D.
AR I ZONA	SEMI-MONTHLY (JAN.15 - APR.1)		SALT R. VA LEY WATER US OF AS-G. ARIZ. AGR. TXP. STATION
COL RADO ANO NEW MEXICO	MONTHLY (FEBMAY)	FORT COLLINS, COLORADO	- COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
I DAHO	MONTHLY (JANJUNE)	BOISE, IDAHO	_ IDAHO STATE RECLA ATION ENGINEL*
MONTANA	MONTHLY (JANJUNE).	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NE VADA	MONTHLY (JANMAY)_	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
ORE GON	MONTHLY (JAN JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN. JUNE)	_ SALT LAKE CITY, UTAH	. UTAH STATE ENGINEER
WASHINGTON-	MONTHLY (FEBJUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEBJUNE)_	CASPER, WYOMING	WYOMING STATE ENGINEER
	PUBLISHED	BY OTHER AGENCIES	
REPORTS	ISSUED		AGENCY
BRITISH COLUMBIA	MONTHLY (FEBJUNE)	WATER RIGHTS BR. NATURAL RESOURCE B.C., CANADA	, DEPT. OF LANDS, FORESTS AND S, PARLIAMENT BLDG., VICTORIA,
CALLEGRNIA	MONTHLY (FER. MAY)	CALLE, DEPT. OF	WATER RESOURCES. P.O. Box 388.

SACRAMENTO, CALIF.

FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND WATER SUPPLY FORECASTS

for

COLORADO RIVER, PLATTE RIVER ARKANSAS RIVER AND RIO GRANDE DRAINAGE BASINS

Issued

May 1, 1963

Report Prepared By
Jack N. Washichek, Snow Survey Supervisor
and
Don W. McAndrew, Assistant Snow Survey Supervisor
Fort Collins, Colorado

United States Department of Agriculture
Soil Conservation Service
and
Colorado Agricultural Experiment Station
Fort Collins, Colorado
and
State Engineer of Colorado
Denver, Colorado
and
State Engineer of New Mexico
Santa Fe, New Mexico

Issued By

Fred A. Mark
State Conservationist(Colo.)
Soil Conservation Service

Courtney A. Tidwell
State Conservationist (N. Mex.)
Soil Conservation Service

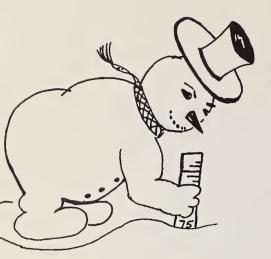
J. E. Whitten State Engineer State of Colorado

Sherman S. Wheeler, Director Colorado Agricultural Experiment Station S. E. Reynolds State Engineer State of New Mexico

General Series Paper No. 783
Colorado Agricultural Experiment Station

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO as of

MAY 1, 1963



* LAST MONTH.

* SNOW IS FALLING ALL OVER COLORADO AND NORTHERN * NEW MEXICO AT THE WRITING OF THIS REPORT. SOME * AREAS REPORTING 30 INCHES ON THE GROUND.



COLORADO CAN STILL USE MORE SNOW, BUT THE OUTLOOK IS MUCH IMPROVED OVER LAST MONTH. THE SOUTH PLATTE IS ESPECIALLY IMPROVED. THE NORTHERN SECTION OF THE STATE IS CURRENTLY IN THE POOREST SHAPE.

NO SEVERE SHORTAGE IS ANTICIPATED AT THIS TIME. SOME LATE SEASON SHORTAGE WILL PROBABLY OCCUR.

SOILS IN THE MOUNTAIN AREAS ARE DRY.



SNOW COVER IS SPOTTY IN NORTHERN NEW MEXICO. SOME AREAS SUCH AS THE SANGRE DE CRISTO EAST OF SANTA FE, THE SNOW COVER IS FAR ABOVE NORMAL, WHILE OTHER AREAS TO THE NORTH AND WEST ARE ONLY 60 TO 70% OF THE 15 YEAR NORMAL. SOIL MOISTURE IS JUST SLIGHTLY LESS THAN NORMAL. RESERVOIRS WILL NOT BE OF GREAT ASSISTANCE EXCEPT ON THE CANADIAN AND PECOS DRAINAGES, WHERE CARRYOVER STORAGE IS SUBSTANTIAL.

WATER SUPPLY OUTLOOK

THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAMFLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.

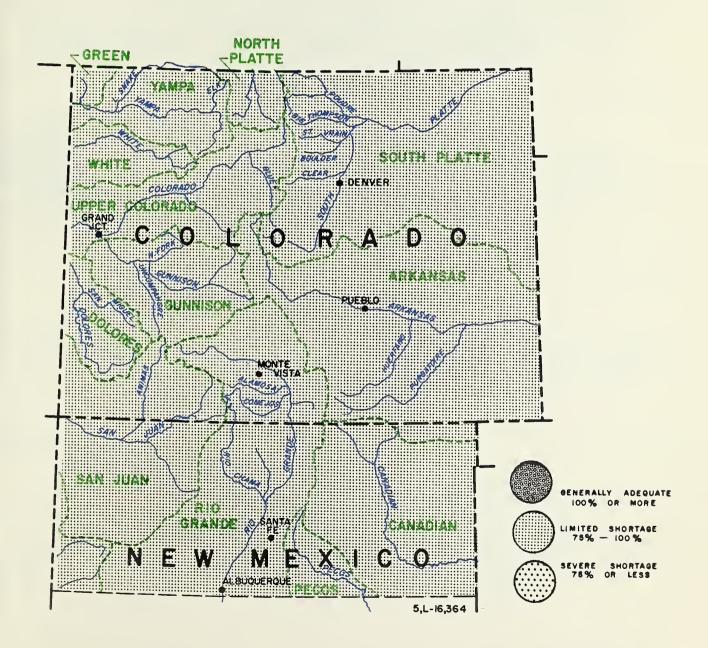


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WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

WATERSHED I - SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson. Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County, Morgan, Kiowa, West Arapahoe, West Adams, East Adams, Platte Valley, Southeast Weld, and West Greeley Soil Conservation Districts.

WATERSHED II - ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

WATERSHED III - RIO GRANDE WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Mosca Hooper, Mt. Blanca, Sanches, and Culebra Soil Conservation Districts

WATERSHED IV - RIO GRANDE WATERSHED (NEW MEXICO)

Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrith, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.

WATERSHED V - DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin. Dove Creek, Dolores. Mancos, LaPlata, Pine River. San Juan, and Glade Park Soil Conservation Districts.

WATERSHED VI - GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompandere Soil Conservation Districts.

WATERSHED VII - COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.

WATERSHED VIII - YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.

WATERSHED IX - LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Haxton. Peetz, Padroni, Morgan Rock Creek and Yuma Soil Conservation Districts.

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW FALL ON THE UPPER SOUTH PLATTE WATERSHED HAS MUCH IMPROVED SINCE THE FEBRUARY FIRST SNOW SURVEY. THE WATER CONTENT OF THE MOUNTAIN SNOW PACK IS CURRENTLY ABOUT 85% OF THE 1943-57 AVERAGE. ALL OF THE TRIBUTAIRES FROM NORTH TO SOUTH ALONG THE FRONT RANGE HAVE ABOUT EQUAL SNOW COVER.

SOIL MOISTURE



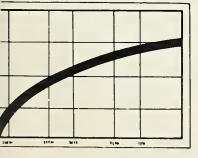
WATERSHED SOILS AT THE HIGH MOUNTAIN ELEVATIONS ARE DRIER THAN AVERAGE AND MUCH DRIER THAN LAST YEAR. THIS CONDITION DOES NOT IMPROVE THE ALREADY BELOW NORMAL OUTLOOK, AS IT WILL REDUCE THE STREAMFLOW OVER THE ENTIRE BASIN.

- RESERVOIR STORAGE



RESERVOIRS IN THIS AREA CONTAIN ABOVE NORMAL AMOUNTS OF CARRYOVER WATER. THE BIG THOMPSON PROJECT CONTAINS NEAR 500,000 ACRE FEET OF STORAGE. WATER HELD IN STORAGE WILL GIVE A BIG BOOST TO THE BELOW NORMAL STREAMFLOW THAT IS ANTICIPATED.

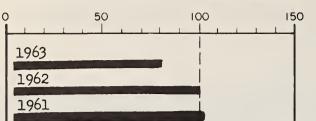
EXPECTED STREAMFLOW



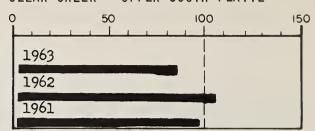
STREAMFLOW DURING THE APRIL-SEPTEMBER PERIOD IS EXPECTED TO BE 80-90% OF THE 1943-57 AVERAGE. THE CACHE LA POUDRE RIVER IS EXPECTED TO FLOW 150,000 ACRE FEET, WHILE THE CLEAR CREEK IS FORECAST AT 126,000 ACRE FEET FOR THE COMING IRRIGATION SEASON. FORECASTS ARE BASED ON AVERAGE SNOW FALL AND PRECIPITATION DURING MARCH AND APRIL.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"
ISSUED BY: SOIL CONSERVATION SERVICE

CACHE LA POUDRE - BOULDER



CLEAR CREEK - UPPER SOUTH PLATTE



RESERVOIR STORAGE (1,000 AC. FT.)

SOIL MOISTURE

MEASURED FIRST OF MONTH				SC	OIL MO	DISTU	RE		
RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Antero Barr Lake Black Hollow Boyd Lake Cache La Poudre Carter Lake * Chambers Lake Cheeseman Cobb Lake Eleven Mile Fossil Creek Gross Halligan Horsetooth * Lake Loveland	108.9 8.8 79.0 34.3 81.9 11.6 43.1 6.4 143.5	15.7 21.0 3.8 8.6 87.2 1.3 42.9 19.2 96.8 8.8 24.4 3.7 91.6	15.7 22.0 4.8 4.1 8.4 93.1 7.3 78.5 20.4 97.8 7.6 34.8 4.4 128.2	14.2 19.9 3.2 18.1 6.2 63.7 1.7 47.6 5.5 69.3 6.6 1.9 88.0	Alpine Camp Beaver Dam Feather Guard Station Hoop Creek Hoosier Pass Kenosha Pass Laramie Road Two Mile	6.9 7.1 10.1 6.9 7.8 4.4 12.4 9.1	2.9 3.2 4.0 2.7 2.9 4.0 1.9 6.2 4.1	5.0 4.9 6.8 5.0 3.5 7.8 3.1 10.4 6.6	3.8 4.6 3.4 2.7 5.1 2.6
Lake Loveland Lone Tree Mariano Marshall Marston Milton Standley Terry Lake Union Windsor	14.3 9.2 5.4 10.3 18.9 24.4 18.5 8.2 12.7 18.6	0.5 15.2 13.9 7.0 5.7 10.5	7.9 7.8 4.8 6.8 15.5 14.0 14.3 5.9 12.0 13.3	5.8 5.6 2.2 1.6 14.2 9.7 9.6 4.3 6.7 8.1	STREAMFLO (1,000	AC. F	OREC.		

PRECIPITATION

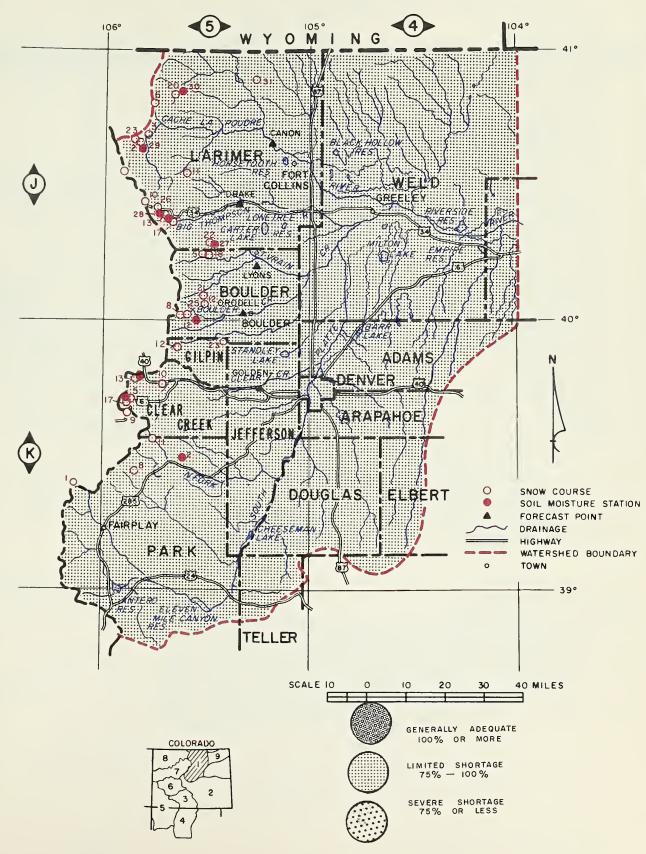
STATION	AUGUST THROUGH NOVEMBER AVE. DEP.	winter AVE. DEP. Dec-Jan
Upper South Platte	2.28 -2.55	.8710

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

S TR E A M AND S T A T I O N	AF	ECAST PRIL - EPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Big Thompson at Drake(2) Boulder at Orodell Cache La Poudre at Canon(Clear Creek at Golden (3) Saint Vrain at Lyons		92 50 150 121 72	91 79 91	106 55 189 137 84

- (1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- (2) Observed flow plus by-pass to power plants.
- (3) Observed flow minus diversions through Jones Tunnel.

SOUTH PLATTE RIVER WATERSHED IN COLORADO



SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C (INCHE	
SOUTH PLATTE RIVER AND TRIBUTARIES Baltimore Berthoud Falls Big South Boulder Falls Cameron Pass (A) Chambers Lake Copeland Lake Deadman Hill (A) Deer Ridge Empire Geneva Park Grizzly Peak (B) Hidden Valley Hoosier Pass Hour Glass Lake Jefferson Creek Lake Irene (B) Long's Peak Lost Lake Loveland Pass Loveland Lift No. 1 Pine Creek Red Feather Two Mile University Camp Ward Wild Basin	5K23 5K13 5J3 5J25 5J1 5J2 5J13 5K1 5K1 5K1 5J13 5K1 5J13 5K2 5J23 5K2 5J23 5J23 5J23 5J23 5J24 5J23 5J24 5J25	2-28 2-23 2-26 NS 2-23 2-26 NS 2-27 2-28 2-28 2-26 2-27 2-27 2-27 2-27 2-27 2-24 2-23 2-26 2-26 2-27 2-27 2-27 2-27 2-27 2-27	22 37 13 38 27 14 16 18 12 49 34 35 26 61 32 35 40 58 5 22 42 50 19 39	6.0 9.5 2.9 10.7 7.4 4.0 2.6 12.4 8.2 8.4 5.4 5.3 15.9 7.1 11.1 14.7 1.2 5.3 15.1 4.4 9.6	NS 10.3 2.7 NS 8.0 10.0 4.3 19.1 13.0 13.5 7.1 11.0 26.0 9.4 15.1 16.3 27.1 1.8 6.8 19.0 20.6	11.8* 2.2 10.3* 18.0 7.0 4.9* 12.2 4.9* 5.0* 3.8* 14.9 9.4 10.0 6.6 7.5 18.6 10.1* 10.4* 12.5 6.9 11.9* 17.7 5.6* 11.9

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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Colorado State University
Ft. Collins, Colorado

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UNITED STATES

DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Ft. Collins, Colorado

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WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE

ARKANSAS RIVER WATERSHED IN COLORADO

as of MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



THE SNOW PACK ON THE ARKANSAS DRAINAGE IMPROVED FROM 67% OF NORMAL, FEBRUARY FIRST TO 80% OF NORMAL ON THIS DATE. THE SNOW PACK IS NOW SIMILAR TO THE REST OF THE STATE. THE SNOW PACK ON THE PURGATOIRE IS STILL MUCH BELOW NORMAL.

SNOW FALL IN THE NEXT MONTH WILL HAVE TO BE THE CASE BEFORE THIS AREA WILL HAVE SUFFICIENT WATER FOR NORMAL OPERATION THIS SUMMER.

SOIL MOISTURE



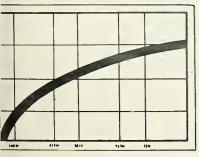
AS INDICATED IN THE LAST MONTH REPORT, SOIL MOISTURE CONDITIONS ARE POOR AT THE HIGHER ELEVATIONS. THIS WILL REDUCE RUNOFF POSSIBLY AS MUCH AS 10%. AS FAR DOWN AS GARDEN CITY, KANSAS VALLEY SOILS ARE REPORTED AS ONLY FAIR. TRINIDAD AREA IS REPORTING GOOD VALLEY SOIL MOISTURE.

RESERVOIR STORAGE



CARRYOVER STORAGE IS NOT ADEQUATE TO OFFSET A POOR RUNOFF. STORAGE IN THE MAJOR RESERVOIRS IS ONLY 45% OF THE 15 YEAR AVERAGE AND ONLY ABOUT HALF AS MUCH AS LAST YEAR. JOHN MARTIN NOW CONTAINS ONLY 17,900 ACRE FEET COMPARED TO 52,600 ACRE FEET WHICH IS THE NORMAL AMOUNT.

EXPECTED STREAMFLOW



FORECASTS EXCEPT FOR THE PURGATOIRE ARE IN THE 70 to 80% RANGE. THE PURGATOIRE IS BEING FORECAST AT ONLY 58% OF THE 1943-57 AVERAGE OR 30,000 ACRE FEET. UNLESS THE PICTURE CHANGES, SHORTAGES WILL OCCUR IN THIS AREA. MORE SNOW IS DEFINITELY NEEDED OVER THE ENTIRE AREA. IF THESE FORECASTS CARRY THROUGH, SHORTAGES WILL EXIST OVER THE ENTIRE BASIN.

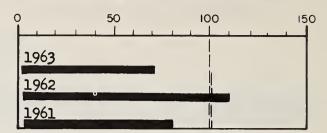
"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

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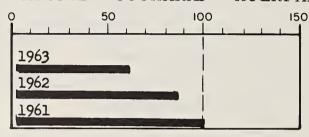
ARKANSAS ABOVE CADDOA DAM

1963 1962 1961

ARKANSAS BELOW CADDOA DAM



PURGATOIRE - CUCHARAS - HUERFANO



RESERVOIR STORAGE (1,000 AC. FT.)

PRECIPITATION

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Adobe Creek Clear Creek Cucharas Great Plains Horse Creek John Martin Meredith Model Sugar Loaf Twin Lakes	61.6 11.4 40.0 150.0 26.9 366.6 41.9 15.0 17.4 57.9	0 8.6 0 11.5 1.7 17.9 10.0 3.1 6.6 23.0	0 10.4 7.3 36.8 11.4 27.0 24.3 5.1 10.7 30.2	21.6 5.0 4.7 51.3 7.4 52.6 14.4 2.5 7.7 23.0

STATION	AUGUST NOVER AVE,	THROUGH MBER DEP.	win AVE. Dec	DEP.
Arkansas	2.96	-2.52	1.21	03

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

MEASURED FIRST OF MONTH

SOIL MOISTURE

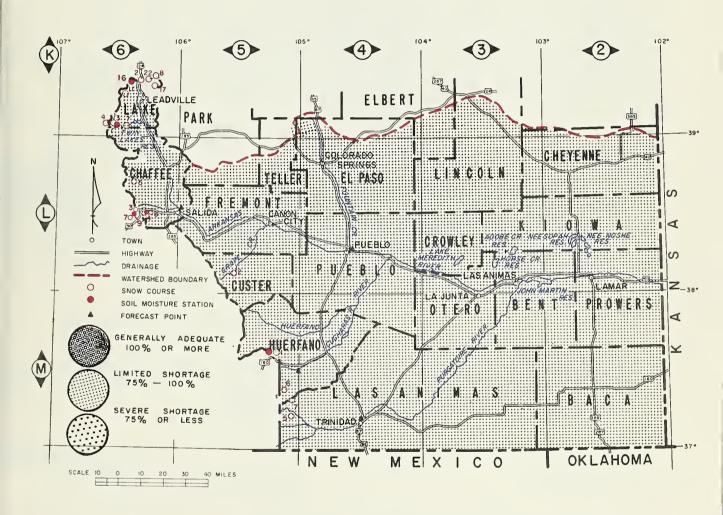
STREAMFLOW FORECAST (1,000 AC. FT.)

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Garfield King LaVeta Pass Leadville Twin Lakes Tunnel	6.7 3.3 11.9 7.8 4.5	1.3 1.6 3.6 3.5 0.9	4.4 2.3 8.2 5.4 3.1	

APRIL THROUGH SEPT	EMBER		
STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Arkansas at Pueblo (1) Arkansas at Salida (1) Cucharas near LaVeta Purgatoire at Trinidad	270 265 10 30	79 78 71 58	342 339 14 52

(1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

ARKANSAS RIVER WATERSHED IN COLORADO





SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C (INCHE LAST YEAR	
ARKANSAS RIVER Bigelow Divide Blue Lakes Bourbon Cooper Hill Cucharas Pass East Fork Four Mile Park Fremont Pass Garfield LaVeta Pass (B) Monarch Pass St. Elmo (A) Tennessee Pass Tomichi Twin Lakes Tunnel Westcliffe	513 5M6 5M5 6K23 5M7 6K17 6K8 6L8 5M1 6L4 6L5 6K2 6L7 6K3 512	2-27 NS 2-25 2-23 NS 2-28 2-27 2-26 2-25 2-26 NS 2-27 2-26 2-28 2-28 2-26	20 	4.2 3.8 6.7 7.4 2.9 10.6 12.7 5.4 14.3 7.1 11.0 5.5 3.7	5.9 3.9 9.1 11.9 10.0 9.7 18.2 17.0 9.1 21.6 19.6 11.7 13.6 16.9 7.3	8.9* 3.7 13.2 8.4 14.9 10.1* 7.9 8.9 5.4*

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NS - NO SURVEY
(A) - AIR OBSERVED
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WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE

UPPER RIO GRANDE WATERSHED IN COLORADO

as of

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



BAD WEATHER DURING THE LATER PART OF THE MONTH HELD AIRCRAFT ON THE GROUND. SINCE MANY OF THE SNOW COURSES IN THE RIO GRANDE AREA ARE READ BY AIR DURING MARCH, SOME SNOW COURSES READINGS WERE NOT MADE. FROM GROUND READ COURSES THE SNOW PACK IS SHOUWN TO BE ABOUT 75% OF NORMAL. THIS IS NOT ENOUGH SNOW TO INSURE ADEQUATE WATER FOR THE SUMMER SEASON.

SOIL MOISTURE



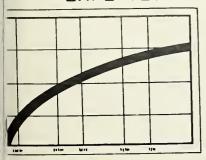
HIGH ELEVATION SOIL MOISTURE STATIONS INDICATE SOILS ARE STILL DRY. SOME OF THE SNOW WATER WILL BE NEEDED TO REPLACE THIS DEFICIENCY IN THE SOILS. VALLEY SOILS IN THE VICINITY OF ALAMOSA AND MONTE VISTA ARE REPORTED AS ONLY FAIR.

RESERVOIR STORAGE



CARRYOVER STORAGE IN THE BASIN RESERVOIRS IS NOT UP TO NORMAL. THIS STORAGE IS ABOUT 70% OF THE 15 YEAR AVERAGE. COMBINED STORAGE IN THE MAJOR RESERVOIRS IS ABOUT 300,000 OF COMPARED TO AN AVERAGE OF 428,000 ACRE FEET.

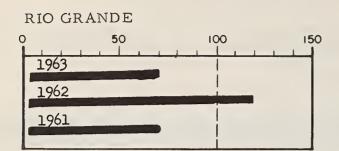
EXPECTED STREAMFLOW



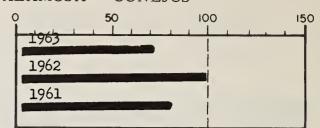
FORECASTS ARE SIMILAR IN PERCENTAGE OF NORMAL FOR ALL THE STREAMS IN THIS AREA. THE LOW FORECAST IS THE RIO GRANDE AT DEL NORTE AT 330,000 ACRE FEET OR 67% OF NORMAL. THE HIGHEST PERCENTAGE IS SOUTH FORK AT SOUTH FORK AND IT IS ONLY 74% OF NORMAL. MUCH ADDITIONAL SNOW IS NEEDED.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

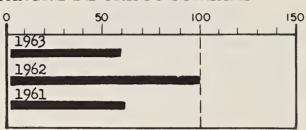
WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE



ALAMOSA - CONEJOS



SANGRE DE CRISTO STREAMS



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Continental Platoro Rio Grande Sanchez Santa Maria Terrace	26.7 60.0 45.8 103.2 45.0 17.7	3.6 4.0 9.5 5.5 4.1 3.2	3.4 11.1 12.2 3.6 2.6	7.3 4.7 11.1 9.6 7.5 2.6

PRECIPITATION

MEASURED FIRST OF MONTH

STATION	AUGUST THROUGH NOVEMBER AVE. DEP.		A v De C	
Rio Grande (Colo.)	4.97	-1.47	2.80	96

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STREAMFLOW FORECAST (1,000 AC. FT.

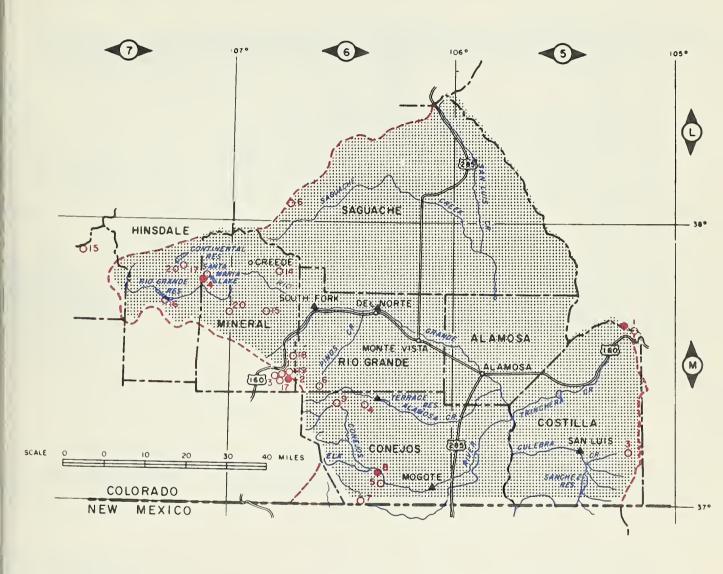
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park	8.2	4.3	5.6	4.8
Bristol View	6.1	3.7	4.2	4.4
LaVeta Pass	11.9	3.6	8.2	7.0
Mogote	10.7	4.5	6.8	5.3

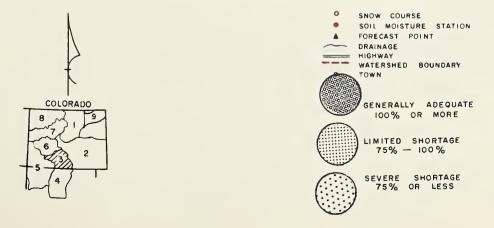
ALL	PROFILES	4 FEET	DEEP
-----	----------	--------	------

APRIL THROUGH SEPT	EMBER		
STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Alamosa above Terrace	50	70	71
Conejos near Mogote	140	71	197
Culebra at San Luis (2)	17	71	24
Rio Grande nr. Del Norte	330	67	491
Rio Grande at Thirty			
Mile Bridge (1)	96 90	71	135
South Fork at South Fork	90	74	121

- Observed flow plus change in storage in Santa Maria, Rio Grande, and Continental Reservoir
- (2) Observed flow plus changes in storage in Sanchez Reservoir.

UPPER RIO GRANDE WATERSHED IN COLORADO





RIO GRANDE IN COLORADO Cochetopa Pass 616 2-27 20 3.1 5.6 4.8* 14.2 28.7	SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
RIO GRANDE IN COLORADO Cochetopa Pass Hiway Lake Humphreys (A) Pass Creek Pool Table (A) Porcupine (A) Red Mountain Pass (B) Santa Maria Upper Rio Grande Wolf Creek Pass Wolf Creek Summit (B) ALAMOSA RIVER Silver Lakes Summitville (A) CONEJOS RIVER Cumbres Pass (B) SANGRE DE CRISTO RANGE (COLO.) Blue Lakes (B) Cucharas Pass (B) Sim A Content of the pass (B) Riway Content of the pass (B) Cucharas Pass (B) Sim A Colorado Content of the pass (B) Cucharas Pass (B) Sim A Colorado Content of the pass (B) Conten	SNOW COURSE	NO.	OF	DEPTH	CONTENT	(INC'H	ES)
	Cochetopa Pass Hiway Lake Humphreys (A) Pass Creek Pool Table (A) Porcupine (A) Red Mountain Pass (B) Santa Maria Upper Rio Grande Wolf Creek Pass Wolf Creek Summit (B) ALAMOSA RIVER Silver Lakes Summitville (A) CONEJOS RIVER Cumbres Pass (A) Platoro (A) River Springs SANGRE DE CRISTO RANGE (COLO.) Blue Lakes (B) Cucharas Pass (B)	6M19 6M15 6M18 5M14 7M20 7M15 7M17 7M16 6M1 6M17 6M6 6M7 6M9 6M5 5M6 5M7 5M6 5M7 5M3	2-27 2-25 NS 2-25 NS NS 2-27 2-26 2-25 2-25 2-25 2-25 2-27 NS NS NS 2-27	20 48 28 73 13 21 58 58 13 38	3.1 14.2 7.2 18.6 2.2 4.2 18.0 17.2 2.9 11.0	5.6 28.7 16.8 9.5 16.1 34.2 7.3 11.2 32.9 32.4 10.0 21.9 23.9 19.6 9.3	4.8* 6.2* 4.8* 9.0* 22.5* 4.7 6.8 24.7* 6.2 16.8 14.4 7.4

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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Soil Conservation Service
Colorado State University
Ft. Collins, Colorado

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WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE

RIO GRANDE WATERSHED IN NEW MEXICO

as of

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



WATER CONTENT OF THE MOUNTAIN SNOWPACK THROUGH-OUT THE RIO GRANDE BASIN AVERAGES 82% OF THE 1943-57 NORMAL. THE SNOW COVER RANGES FROM MUCH BELOW NORMAL IN THE HEADWATERS AREA TO 200% IN THE SANGRE DE CRISTOS ABOVE SANTA FE. MUCH MORE SNOW IS STILL NEEDED IN THE HEADWATERS AREA TO INSURE ADEQUATE WATER THIS SUMMER.

SOIL MOISTURE



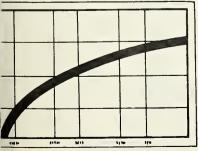
SOIL MOISTURE CONDITIONS HAVE NOT IMPROVED SINCE LAST FALL. ALL STATIONS AVERAGE BELOW NORMAL AND MUCH BELOW LAST YEAR AT THIS TIME. SOME SNOW MELT WATER WILL BE NEEDED TO FILL THESE DRY SOILS PRIOR TO RUNOFF.

RESERVOIR STORAGE



WATER STORED IN THE MAJOR RESERVOIRS REMAINS ABOUT 75% OF NORMAL. THE STORAGE IN MOST OF THESE RESERVOIRS WILL INCREASE AS SPRING RUNOFF COMMENCES.

EXPECTED STREAMFLOW

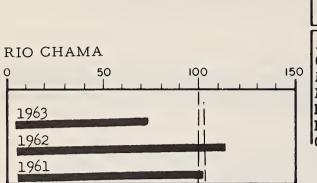


STREAMFLOW FORECASTS VARY FROM 70% TO 100% OF NORMAL THROUGHOUT THE RIO GRANDE BASIN IN NEW MEXICO. THE RIO GRANDE AT OTOWI IS FORECAST AT 440,000 ACRE FEET FOR THE MARCH THROUGH JULY PERIOD.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

RESERVOIR STORAGE (1,000 AC. FT.)



RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Alamorgordo Caballo Elephant Butte El Vado McMillan-Avalon Red Bluff (Tex) Conchas	307.0 600.0	83.0 88.0 422.0 2.5 19.4 28.4 291.3	116.0 71.0 405.3 2.6 16.0 63.3 279.4	55.4 170.4 606.6 34.9 13.4 91.7 262.5

PRECIPITATION

Ţ	JPPER	RIO	GRA	NDE	:					
(5	0		10	00	1		150	0
	1963			+ .			- '			
	1962									
	1961									

STATION	AUGUST NOVE AVE.	THROUGH MBER DEP.	AVE.	TER Jan
Lower Rio Grande Middle Rio Grande Upper Rio Grande PRELIMINARY AVERA	U.S. WEA	-1.47	2.80 EAU DATA	+.49 56 96

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS Y EAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park (Colo) Aqua Piedra Bateman Big Tesuque	1 1	4.3 3.0 2.7 0.1	5.6 4.1 3.0 1.8	4.8 3.9 2.5 1.7
Bristol View (Colo) Chamita (New Mex)		1.7 1.3	4.2	4.4
Fenton Hill	6.5	NS	4.9	
Mogote (Colo) Red Summit		4.5 1.9	6.8 2.4	5.3
Rio En Medio	3.5	0.6	2.0	1.2
Taos Canyon	3.3	2.5	2.4	2.3

ALL PROFILES 4 FEET DEEP

100

MIDDLE RIO GRANDE

1963 1962 1961

LOWER RIO GRANDE

50 100 150 1963 1962 1961

STREAMFLOW FORECAST (1.000 AC. FT.)

STATION SEPT. AVERAGE 1943-57 Costilla at Costilla 19 70 27 Pecos at Pecos 48 100 48	APRIL THROUGH SEPT	LEMDER		
Pecos at Pecos 48 100 48	AND	APRIL -	YEAR	AVERAGI 1943-57
Rio Grande at Otowi (10)* Rio Grande at San Marcial (10)* (10)* 200 77 210 633 633 70 634 644	Pecos at Pecos Rio Chama nr. La Puenta Rio Grande at Otowi (10)* Rio Grande at San Marcial	48 200 440	100 95 69	48 210 633

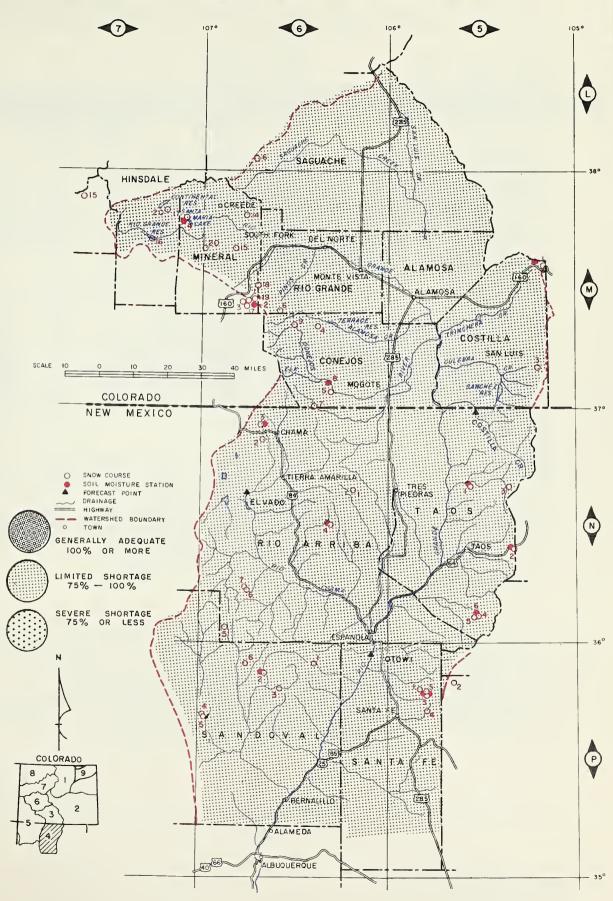
Rio Grande at San Marcial is Forecast at 44% of the Elephant Butte Irrigation District's Normal.

150

(10) Observed flow plus changes in storage in Santa Maria, Rio Grande, Continental, Terrace, Sanchez, Platoro and El Vado Reservoirs.

^{*} Rio Grande at Otowi and Rio Grande at San Marcial Forecast and Average Mar-July inclusive.

RIO GRANDE WATERSHED IN NEW MEXICO



SNOW		CURRE	NT INFORMA	TION	PAST F	RECORD
SNOW COURSE	NO.	DATE OF	SNOW DEPTH	WATER CONTENT	WATER C	ONTENT ES)
SNOW COOKS		SURVEY	(INCHES)	(INCHES)	LAST YEAR	AVERAGE 1943 - 57
RIO GRANDE						
Culebra (Colorado)	5M13	2-27	28	6.2	9.0	8.7
Cumbres Pass (A)	6M7	NS	20	002	23.9	16.8
LaVeta Pass	5M1	2-25	20	5.4	9.1	8.4
Platoro (A)	6M9	NS	20		19.6	14.4*
River Springs	6M5	2-27	14	2.8	9.3	7.4
Santa Maria	7M17	2-26	13	2.2	7.3	4.7
Silver Lakes	6M4	3-01	13	2.9	10.0	6.2
Summitville (A)	6 M 6	NS			21.9	16.2
Upper Rio Grande	7M16	2-25	21	4.2	11.2	6.8
Wolf Creek Pass	6M1	2-25	58	18.0	32.9	25.4
Aspen Grove (New Mexico)	5P1	2-26	24	8.3	9.7	4.1
Bateman	6N4	2-26	36	7.3	12.4	9.7*
Big Tesuque	5P3	2-26	23	7.4	6.8	4.7
Blue Bird Mesa	6P6	2-28	10	2.3	5.6	
Capuline Peak	6N6	2-27	14	2.6	6.5	
Chama Divide	6N2	2-27	9	2.2	4.0	4.4
Chamita	6N3	2-27	29	8.8	9.0	9.3
Cordova (A)	5N5	NS		0 /	14.8	9.5
Elk Cabin	5P4	2-28	13	3.6	3.8	3.1*
Fenton Hill	6P2	2-28	6	2.2	4.5	3.7*
Hematite Park	5N3	2-27	12	2.8	3.0	5.6
Pajarito Peak	6P4	2-27	6	1.2	NS	
Panchuela	5P2	2-26	18	4.3	5.7	3.3
Payrole (A)	6N1	NS NS			9.9	8.4
Philmont	5N6 6P1	NS 2-26	27	7.1	11.0	5.8*
Quemazon Red River	5N1	2-20	31 19	4.5	11.0	6.9
Rio En Medio	5P5	2-26	39	10.5	9.7	6.8*
Sandoval	6P3	2-26	16	4.2	6.4	0.0*
Taos Canyon	5N2	2-20	10	2.0	5.0	5.5
Tres Ritos	5N4	2-26	20	6.5	4.7	5.8
NOTE: * - 1943 - 57 (ADJUSTED AVERAGES) NS - NO SURVEY (A) - AIR OBSERVED (B) - ON ADJACENT DRAINAGE						

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WATER SUPPLY OUTLOOK

FOR THE SOIL CONSERVATION DISTRICTS IN THE

SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN WATERSHEDS IN COLORADO AND NEW MEXICO

as of MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SOME GAINS WERE MADE IN SNOW PACK ON ALL BASINS.
THE DOLORES WATERSHED ESPECIALLY IMPROVED. SNOW COVER
ON THE DOLORES IS ABOUT 85% OF NORMAL WHILE SAN JUAN
AND ANIMAS SHOW IMPROVEMENTS TO ABOUT 75% OF THE 15
YEAR AVERAGE. SNOW FALL WAS FAIRLY UNIFORM THROUGH
ALL ELEVATIONS. MORE THAN AVERAGE SNOWFALL DURING
MARCH IS NEEDED TO INSURE ADEQUATE WATER THIS SUMMER.

SOIL MOISTURE



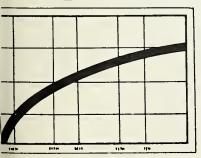
AS INDICATED IN THE LAST REPORT SOIL MOISTURE CONDITIONS ARE AVERAGE TO SLIGHTLY BELOW AT THE HIGHER ELEVATIONS. SOIL IN THE IRRIGATED AREAS AROUND BAYFIELD AND DURANGO ARE REPORTED AS FAIR WHILE THE CORTEZ AREA REPORTS GOOD SOIL MOISTURE CONDITIONS.

RESERVOIR STORAGE



VALLECITO RESERVOIR CONTAINS 51,700 ACRE FEET -COMPARED TO 71,200 LAST YEAR AT THIS TIME AND A 15 YEAR AVERAGE OF 41,000 ACRE FEET. GROUNDHOG HAS ABOUT THE SAME CARRYOVER STORAGE AS LAST YEAR, BUT IS SLIGHTLY BELOW NORMAL.

EXPECTED STREAMFLOW



FORECASTS RANGE FROM 73% OF NORMAL ON PIEDRA CREEK TO 93% OF NORMAL ON THE DOLORES. NO SEVERE SHORTAGES SHOULD EXIST, HOWEVER, UNLESS THE SNOWFALL IS ABOVE NORMAL DURING THE REST OF THE SEASON, LATE SEASON SHORTAGES CAN BE EXPECTED.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

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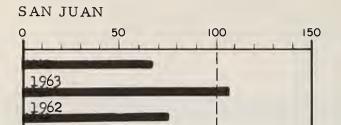
F. A. Mark, State Conservationist, Colorado

Benny Martin, Area Conservationist, Monte Vista, Colorado

E. A. Nicholson, Area Conservationist, Grand Junction, Colorado C. A. Tidwell, State Conservationist
New Mexico

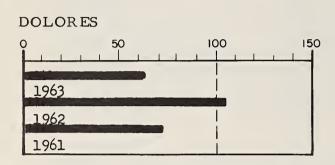
WAILKSHLD

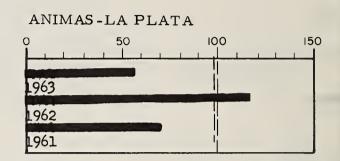
J. B. Christy, Area Conservationist Albuquerque, New Mexico



1961

PIEDRA-PINOS-FLORIDA 0 50 100 150 1963 1962





RESERVOIR STORAGE (1,000 AC. FT.)

PRECIPITATION

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	
Groundhog Vallecito	21.7 126.3		5.5 71.2	7.0 41.0	Do Sa

STATION	NOVE	THROUGH MBER DEP.		TER -Jan p.
Dolores	4.75	+•37	1.35	-1.32
San Juan	7.10	-•59	2.96	17

MEASURED FIRST OF MONTH

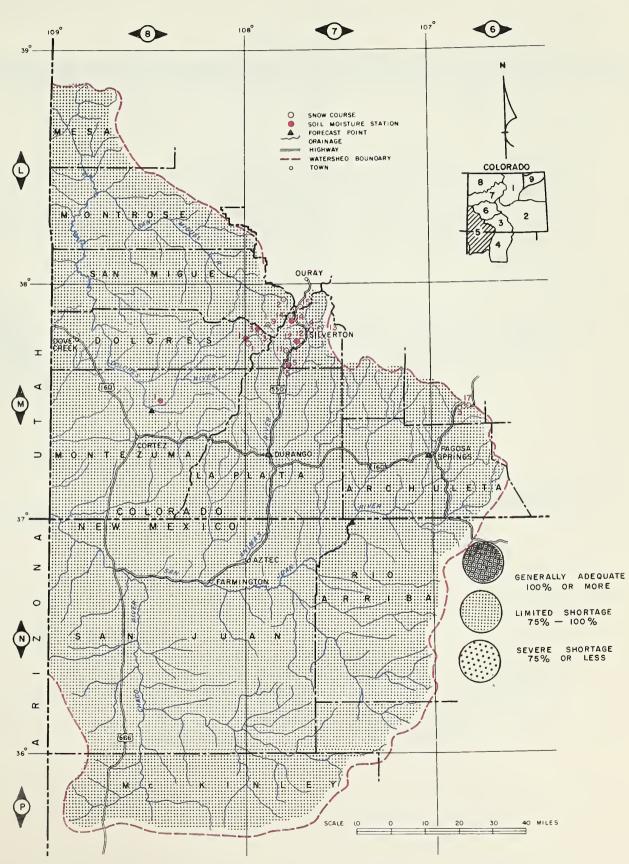
PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STREAMFLOW FORECAST (1,000 AC. FT.)

					APRIL THROUGH SEPTEMBER	
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)	STREAM FORECAST THIS YEAR AVERA STATION SEPT. AVERAGE 1943-	
Cascade Dolores Lizzard Head Mineral Creek Molas Lake Rico	9.1 19.6 11.8 5.7 9.4 13.8	6.4 4.7 7.2 3.1 4.3 9.1	6.6 0.3 9.6 4.0 5.1 9.8	6.7 4.3 8.2 3.6 4.2 9.1	Animas at Durango Dolores at Dolores Florida near Durango LaPlata at Hesperus Los Pinos Near Bayfield* Piedra Creek near Piedra San Juan at Rosa, N. M. Animas at Durango 260 93 279 48 77 62 25 89 28 190 86 220 135 73 186 587	

SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN WATERSHEDS IN COLORADO AND NEW MEXICO



SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C (INCHE	ES)
SAN JUAN RIVER Chama Divide (B) Chamita (B) Upper San Juan Wolf Creek Pass (B) Wolf Creek Summit ANIMAS RIVER Cascade Howardville Ironton Park (B) Mineral Creek Molas Lake Red Mountain Pass Silverton Sub-Station Spud Mountain DOLORES RIVER Lizzard Head Rico Telluride Trout Lake	6N2 6N3 6M3 6M1 6M17 7M5 7M6 7M14 7M12 6M19 7M4 7M11 7M3 7M1 7M2 7M9	2-27 2-27 2-25 2-25 2-25 2-27 2-27 2-27	9 29 67 58 58 35 40 38 36 73 21 52 45 21 29 44	2.2 8.8 20.5 18.0 17.2 7.5 6.9 10.0 7.7 8.1 18.6 3.7 14.5 11.6 5.7 5.1 10.8	4.0 9.0 34.1 32.9 32.4 14.5 13.0 12.6 17.3 16.3 34.2 9.0 29.0 18.9 9.5 7.0 14.8	4.4 9.3 27.6 25.4 24.7* 11.3 8.7* 10.3 11.8* 12.5* 22.5* 5.1 20.3* 13.2 7.9 6.7 11.5*

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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Colorado State University
Ft. Collins, Colorado

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WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE

GUNNISON RIVER WATERSHED IN COLORADO

as of

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

MARCH 1, 1963

SNOW COVER



SNOW COVER WAS VASTLY IMPROVED DURING THE MONTH OF FEBRUARY. THE UNCOMPANGRE WHICH HAD SOME OF THE POOREST SNOW COVER IN THE STATE IS NOW NEARLY 90% OF OF NORMAL. THE GUNNISON IS ABOUT 75% OF AVERAGE. THE SNOW COVER ON GRAND MESA IS WELL BELOW NORMAL.

SOIL MOISTURE



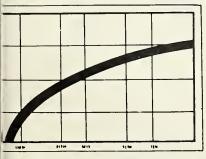
MOUNTAIN SOIL REMAINS DRY. THESE SOILS WILL ABSORB SOME OF THE SNOW WATER AT THE TIME OF MELT AND REDUCE RUNOFF. VALLEY SOILS ARE NOT MUCH BETTER. THEY ARE GENERALLY REPORTED AS POOR.

RESERVOIR STORAGE



TAYLOR PARK RESERVOIR IS JUST ABOUT AT THE SAME LEVEL AS LAST YEAR AND WELL ABOVE NORMAL.

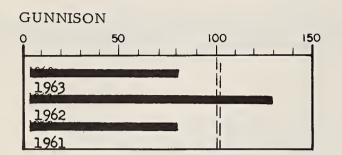
EXPECTED STREAMFLOW

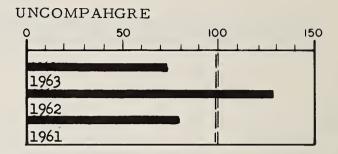


FORECASTS ARE IN THE 90% RANGE. IF THE SNOW FALL REMAINS AVERAGE OR BETTER DURING THE REST OF THE SNOW SEASON THERE SHOULD BE NO MATERIAL SHORTAGE OF WATER DURING THE SUMMER. POSSIBLY SOME LATE SEASON DEFICIENCIES IS ALL THAT CAN BE EXPECTED.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"
ISSUED BY: SOIL CONSERVATION SERVICE

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE





RESERVOIR STORAGE (1,000 AC. FT.)

PRECIPITATION

RESERVOIR	USABLE CAPACITY	THIS YEAR	VEAR	15 YEAR AVERAGE 1943 - 57	STATION	AUGUST NOVE AVE.	THROUGH MBER DEP.		ter Jan
Taylor	106.2	77.9	78.4	60.9	Gunnison	3.01	-1.49	1.73	+•02
I .	1	1	ı	i	DREI IMINARY II	C WEATIN	ED BUDEAU	DATA	

MEASURED FIRST OF MONTH

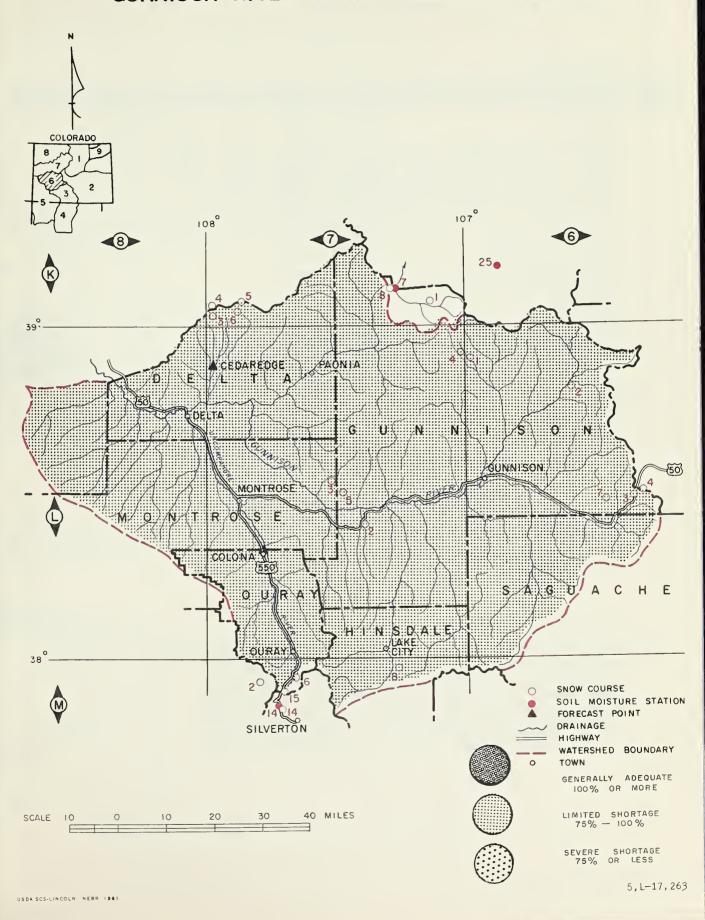
PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STREAMFLOW FORECAST (1,000 AC. FT.

					APRIL THROUGH SEPTEMBER	
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)	STREAM FORECAST APRIL - STATION SEPT. STREAM FORECAST THIS YEAR % AVERAGE	AVERAGE 1943-57
King Maroon Mineral Creel Placita	3.3 5.9 5.7 9.3	1.6 2.7 3.1 4.5	2.3 5.1 4.0 7.2	3.2 3.6	Gunnison nr. Grand Jct. 1200 87 Surface Cr. at Cedaredge 14 78 Uncompangre at Colona 135 93	1386 18 145

GUNNISON RIVER WATERSHED IN COLORADO



IOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CO (INCHE LAST YEAR	
GUNNISON RIVER						
Alexander Lake (A)	7K3	NS			24.0	17.6
Black Mesa	7L5	NS			17.8	
Blue Mesa	712	2-26	20	4.9	10.3	
Cochetopa Pass (B)	616	2-27	20	3.1	5.6	4.8
Crested Butte	6IJ	2-25	33	8.3	14.9	12.6
Keystone	7 I 3	2-26	41	10.7	26.3	
Lake City	7M8	2-25	24	5.2	9.7	7.8
Long Draw	714	NS	·		10.6	
Mesa Lakes (B)	7K4	2-26	29	6.9	15.3	13.2
Monarch Pass (B)	614	2-26	49	14.3	21.6	14.9
McClure Pass (A)	7K8	NS			23.7	13.5
Mineral Creek (B)	7M14	2-27	38	7.7	17.3	11.8
North Lost Trail (A) (B)	7K1	NS			22.0	12.8
Park Cone	612	2-25	30	8.0	13.5	9.4
Park Reservoir (A)	7K6	NS			30.5	20.9
Porphyry Creek	6L3	2-26	45	13.0	19.8	13.5
Trickle Divide (B) (A)	7K5	NS			31.6	22.2
Tomichi	6L7	2-26	39	11.0	13.6	
UNCOMPAHERE RIVER						1
Ironton Park	7M6	2-26	40	10.0	12.6	10.3
Lizzard Head	7M3	2-26	45	11.6	18.9	13.2
Red Mountain Pass (B)	7M1.5	2-27	73		34.2	22.5
Telluride	7M2	2-27	29	18.6	7.0	6.7
Trout Lake	7M9	2-27	44	10.8	14.8	11.5

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE

COLORADO RIVER WATERSHED IN COLORADO

as of MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW COVER ON THE COLORADO RIVER BASIN IS SLIGHT-LY IMPROVED SINCE FEBRUARY FIRST. CONDITIONS ARE NOT OPTIMISTIC YET, BUT AVERAGE SNOW COVER IS NOW ABOUT 75% OF NORMAL. LOW TO MEDIUM ELEVATIONS SHOW THE BIG-GEST IMPROVEMENT OVER LAST MONTH.

SOIL MOISTURE



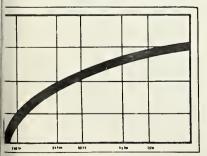
SOIL MOISTURE, AS INDICATED LAST MONTH IS STILL POOR AT THE HIGHER ELEVATIONS. SOIL MOISTURE CONDITIONS IN THE IRRIGATED AREAS IS SOMEWHAT BETTER. MOST REPORTS INDICATE FAIR TO GOOD SOIL MOISTURE AT THE LOWER ELEVATIONS.

- RESERVOIR STORAGE



GREEN MOUNTAIN RESERVOIR IS VIRTUALLY EMPTY, CONTAINING ONLY 700 ACRE FEET. LAST YEAR AT THIS TIME IT CONTAINED ALMOST 83,000 ACRE FEET. GRANBY RESER-VOIR CONTAINS 311,600 ACRE FEET. IT IS PART OF THE BIG THOMPSON PROJECT AND DOES NOT DIRECTLY CONTRIBUTE TO THE FLOW OF THE COLORADO RIVER.

EXPECTED STREAMFLOW



FORECASTS ON THE MAIN STEM OF THE COLORADO AND ALL TRIBUTARIES WILL BE LESS THAN NORMAL. THE MAIN STEM SHOULD FLOW ABOUT 80% OF THE 15 YEAR NORMAL. THIS WILL SERVE MOST WATER NEEDS, BUT SOME LATE SEASON SHORTAGES MAY EXIST. IF SNOW CONDITIONS CONTINUE TO IMPROVE DURING MARCH AN AVERAGE FLOW IS STILL POSSIBLE.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

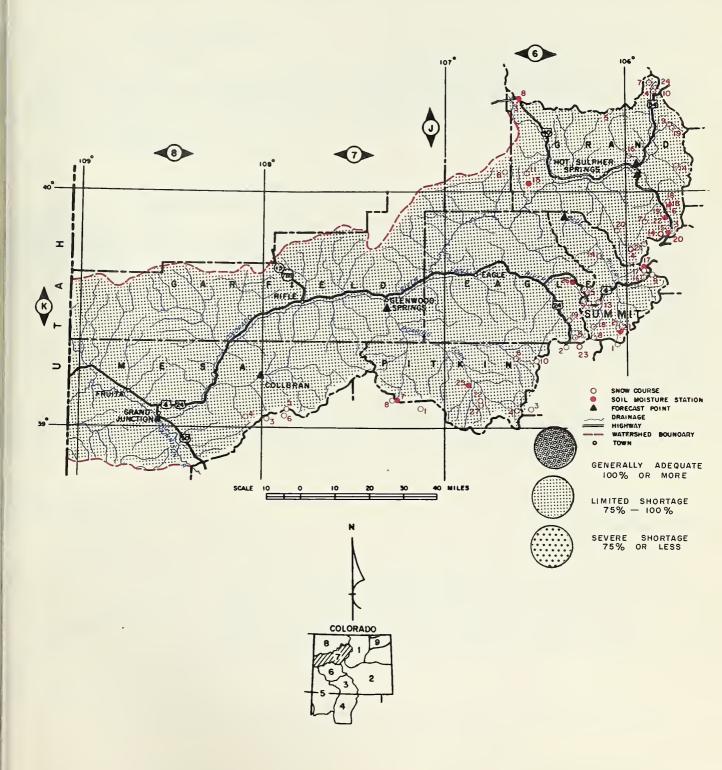
SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C	S)
		JORVEI	(INCHES)	(INCHES)	LAST YEAR	AVERAGE 1943 - 57
COLORADO RIVER (UPPER) Arrow	EWL	2.25	2/	8.5	12.4	9.0
Berthoud Pass	5 K 6 5 K 3	2-25 2-26	36 37	8.6	16.4	11.5
Berthoud Summit	5K14	2-28	49	11.9	19.6	14.2*
Blue River	6K21	2-27	26	5.1	8.7	
Cooper Hill	6K23	2-23	33	6.7	11.9	
Fiddlers Gulch	6K5	Est.	43	10.5	20.6	13.6
Fremont Pass	6 K 8	2-27	45	10.6	18.2	13.2
Frisco	6K13	2-28	23	5.5	8.6	7.8*
Glen Mar Ranch	6 K2 0	2-25	23	5.7	8.9	7.2*
Gore Pass	6J11	2-25	29	5.2	14.3	9.2*
Granby	5J16	2-25	22	5.0	8.6	5.9*
Grand Lake	5J19	2-24	26	4.4	10.1	7.4*
Grizzly Peak	5K9	2-26	49	12.4	19.1	14.9
Hoosier Pass (B)	6K1	2-26	35	8.4	13.5	10.0
Jones Pass	5K21	2-27	38	7.9	14.8	
Lake Irene	5J10 5K7	Est.	61	15.9	26.0	18.6
Lapland	5J7	2-27	32	7.4 10.9	12.7 18.4	10.3
Iulu I	6K6	2-23	48	6.9	16.3	13.9
Lynx Pass	6K28	2-25	30	2.4	6.6	10.6
McKenzie Gulch	5K4	2-25 Est.	12 30	6.1	10.1	18.0
Middle Fork Camp Ground Milner Pass	5J24	NS	ا نار	0.1		11.2*
Monarch Lake	5J14	2-23	30	6.0	10.9	10.8*
North Inlet Grand Lake	5J9	Est.	28	4.8	10.8	8.0
Pando	6K19	2-28	20	4.7	10.2	9.9×
Phantom Valley	5J4	2-24	25	5.5	11.4	8.9
Ranch Creek	5K18	2-25	27	6.0	10.9	
	6K9	2-27	46	10.7	20.5	14.0
Snake River	5K16	2-26	26	6.2	8.8	7.9*
	6K14	Est.	26	5.2	10.2	6.9*
1012100000	6K2	2-27	33	7.1	11.7	7.9
	6K15	2-27	48	12.1	21.0	16.5*
	5K19	2-25	33	6.6	14.6	
11222011 02 0011 1 000	6J5	2-25	32	8.3	15.5	10.8
ROARING FORK RIVER						
	7J22	2-23	34	7.5	16.4	31 2
	6K4	2-28	41	10.2	24.4	14.3
	6K10	2-25	45	10.6	20.1	15.7*
	7K27 7 K8	2-23 NS	34	0.4	21.0	13.5*
	6K6	2-26	17	3.0	23.7	6.0
	7K1	NS NS			6.9	8.0
PLATEAU CREEK					22.0	
	7K3	NS			24.0	17.6
	7K4	2-26	29	6.9	15.3	13.2
	7K6	NS			30.5	20.9
	7K5	NS			31.6	22.2
2120120 221200 (11)						

NOTE: • - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY
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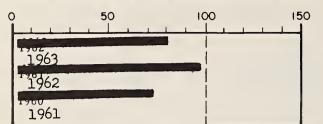
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Ft. Collins, Colorado

COLORADO RIVER WATERSHED IN COLORADO

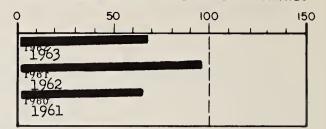


WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

UPPER COLORADO ABOVE GLENWOOD SPRINGS



LOWER COLORADO BELOW GLENWOOD SPRINGS



R

RESERVOIRS	TORAC	GE (1,	000 A	C. FI	•
RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	
Granby* Green Mt.	465.5 146.9		354.5 82.9	201.3 68.0	

PRECIPITATION

STATION	AUGUST NOVEN AVE.	DEP.	ADe.C-Janp.			
Upper Colorado Lower Colorado	3.62 3.89	-2.20 75		88 +.15		

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Berthoud Pass	3.9	2.3	3.1	2.67
Blue River	4.2	2.1	3.3	2.7
Gore	4.9	2.1	3.5	2.5
Maroon	5.9	2.7	5.1	3.2
Muddy Pass	11.1	5.6	10.5	6.4
Placita	9.3	4.5	7.2	5,1
Ranch Creek	8.7	5.4	6.5	6.2
Vail Pass	12.3	7.6	10.6	7.4
Vasquez	11.0	7.0		7.4

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEP	TEMBE	Ŕ			
STREAM AND STATION	FOREC APRII SEP	٠ -	YI	HIS EAR % RAGE	AVERAGE 1943-57
Blue River abv. Green Mt.	Dam	2	30	79	T290
Colo. R. nr. Granby (4)		1	30	76	235
Colo. R. at Glenwood Sprs	.(5)	130	00	84	1546
Plateau Cr. Near Collbran		-	41	72	57
Roaring Fork at Glenwood					
Springs (6)		6	00	75	803
Williams Fork Nr. Parshal	1		55	71	78
Willow near Granby			35	80	44

- (4) Observed flow plus diversions by Adams tunnel and Grand River ditch plus change in storage in Granby Reservoir.
- (5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.
- (6) Observed flow plus diversion through Twin Lakes tunnel.

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

YAMPA, WHITE, AND NORTH PLATTE RIVERS WATERSHEDS IN COLORADO

as of MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW PACK IN THE MOUNTAIN AREAS OVER THE NORTH PLATTE, YAMPA AND WHITE RIVER BASINS IS STILL DEFICIENT ALTHOUGH IT HAS INCREASED 20% SINCE FEBRUARY FIRST MEASUREMENTS. WATER CONTENT IN THE MARCH 1 SNOW PACK IS ABOUT 79% OF THE 1943-57 AVERAGE.

SOIL MOISTURE



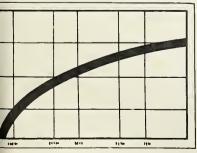
MOUNTAIN SOILS ARE DRIER THAN NORMAL AND MUCH DRIER THAN LAST YEAR AT THIS TIME. SOME OF THE SNOW WATER WILL BE USED TO FILL THE SOIL MANTLE.

RESERVOIR STORAGE



THERE ARE NO LARGE RESERVOIRS IN THE HEADWATERS OF THESE DRAINAGES, BUT THE SMALL ONES WILL REALLY BE A BIG BOOST FOR THE LANDS THEY SERVE.

EXPECTED STREAMFLOW

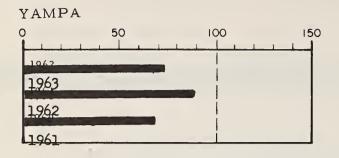


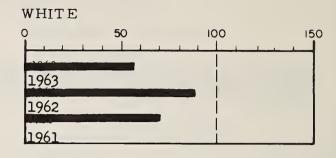
SNOW FALL IN THE MOUNTAINS FOR THE REMAINING WINTER AND SPRING MONTHS WILL HAVE TO BE FAR IN EXCESS OF AVERAGE TO PRODUCE AVERAGE FLOWS FOR THE STREAMS IN THESE WATERSHEDS. PRESENTLY THE STREAMS IN THESE THREE BASINS ARE BEING FORECAST BETWEEN 70 AND 80% OF THE 1943-57 NORMAL.

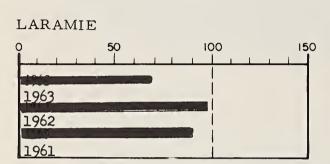
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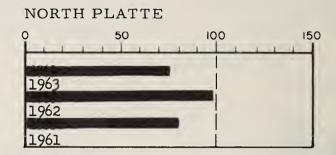
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WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE









SOIL MOISTURE

AVERAGE CAPACITY THIS LAST STATION (ALL PAST (INCHES) YEAR YEAR DATA) 16.7 19.0 19.0 Hahn's Peak 6.2 Laramie Road 12.4 10.4 7.6 Muddy Pass 5.6 10.5 6.4 11.1 6.6 5.8 9.1 4.1 Two Mile 9.5 6.8 Willow Pass 9.5 5.4

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

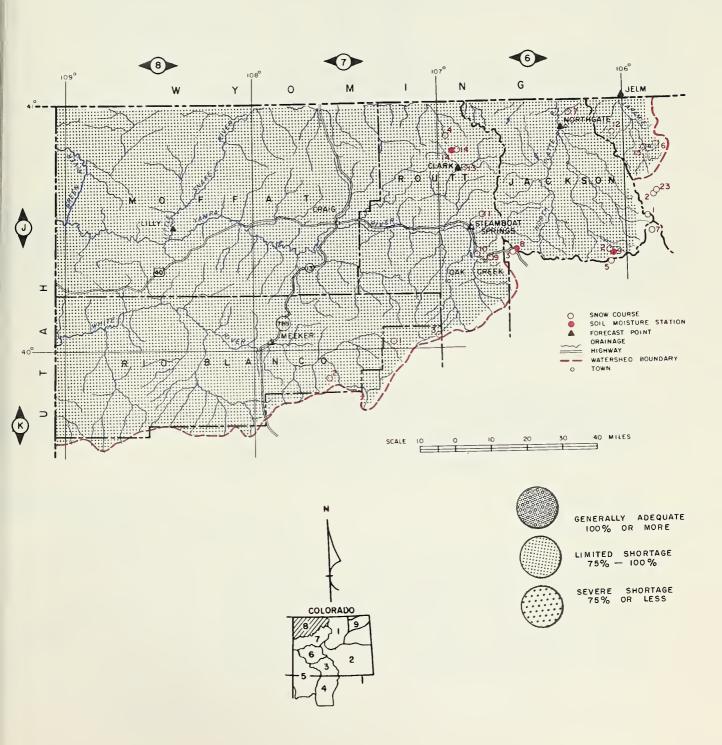
APRIL THROUGH SEPT	EMBER		
STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Elk at Clark Iaramie at Jelm Little Shake at Lilly North Platte at Northgate White at Meeker Yampa at Steamboat Sprgs.	225	77 80 60 77 67 71	215 113 350 255 335 283

PRECIPITATION

STATION	AUGUST 1 NOVEN AVE.		win Dec-	
North Platte	2.13	81	.90	+.10
White	3.43	46	1.63	64
Yampa	3.74 -	1.58	2.65	45

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

YAMPA, WHITE, AND NORTH PLATTE RIVERS WATERSHEDS IN COLORADO



NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW FALL ON THE UPPER SOUTH PLATTE WATERSHED HAS MUCH IMPROVED SINCE THE FEBRUARY FIRST MEASURE—MENTS. THE WATER CONTENT OF THE MOUNTAIN SNOWPACK IN THIS AREA IS CURRENTLY ABOUT 85% OF THE 1943-57 AVERAGE. SNOW COVER ON SEVERAL LOW ELEVATION COURSES ON THE CACHE LA POUDRE IS ABOVE NORMAL.

SOIL MOISTURE



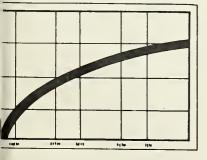
SOIL MOISTURE AT THE HIGH MOUNTAIN ELEVATIONS REMAINS BELOW AVERAGE AND MUCH DRIER THAN LAST YEAR AT THIS TIME. THIS CONDITION WILL REDUCE THE STREAM-FLOW OBTAINED FROM THE MELTING SNOWS THIS SPRING. SOILS IN THE IRRIGATED DOWNSTREAM AREAS ARE REPORTED AS ONLY FAIR. THE REGION AROUND FORT MORGAN IS THE ONLY PLACE REPORTING GOOD SOIL MOISTURE.

RESERVOIR STORAGE



STORED WATER SUPPLIES ARE VERY GOOD. MAJOR RESERVOIRS CONTAIN ABOUT 122% NORMAL CARRYOVER STORAGE FOR THIS DATE. IF STREAMFLOW IS DEFICIENT FOR IRRIGATION THIS YEAR, THE RESERVOIRS WILL BE A GREAT HELP ON THE LANDS THAT THEY SERVE.

EXPECTED STREAMFLOW



STREAMFLOW DURING THE APRIL-SEPTEMBER PERIOD IS EXPECTED TO BE 80-90 % OF THE 1943-57 AVERAGE ON THE UPPER SOUTH PLATTE WATERSHED AND IT'S TRIBUTARIES. SNOW FALL DURING THE NEXT MONTH AND ONE-HALF MUST BE NORMAL FOR THE STREAMS TO FLOW AS FORECASTED. ABOVE SNOW FALL DURING THE REMAINDER OF THE SEASON WOULD IMPROVE THE OUTLOOK. CURRENTLY LATE SEASON SHORTAGES CAN BE EXPECTED IN AREAS WITH NO STORAGE.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

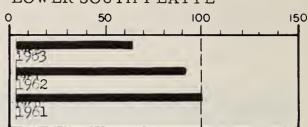
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WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

UPPER SOUTH PLATTE



LOWER SOUTH PLATTE



RESERVOIR STORAGE (1,000 AC. FT.)

SOIL MOISTURE

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Carter * Cheeseman Eleven Mile Empire Horsetooth* Jackson Lake Julesburg Point of Rocks Prewitt Riverside	108.9 79.0 81.9 37.7 143.5 35.4 28.2 70.0 32.8 57.5	42.9 96.8 31.2 91.6 32.0 20.1 70.0	93.1 78.5 97.8 29.6 128.2 29.8 19.1 65.9 23.0 50.4	63.7 47.6 69.3 26.6 38.0 30.6 20.5 51.2 18.6 42.6	Alpine Camp Beaver Dam Feather Guard Station Hoop Creek Hoosier Pass Kenosha Pass Laramie Road Two Mile	6.9 7.1 10.1 6.9 7.3 4.4 12.4 9.1	2.9 3.2 4.0 2.7 2.9 4.0 1.9 6.2 4.1	5.0 4.9 6.8 5.0 3.5 7.6 3.1 10.4 6.6	3.8 4.6 3.4 2.7 5.1 2.6

MEASURED FIRST OF MONTH

STREAMFLOW FORECAST (1,000 AC. FT.) APRIL THROUGH SEPTEMBER

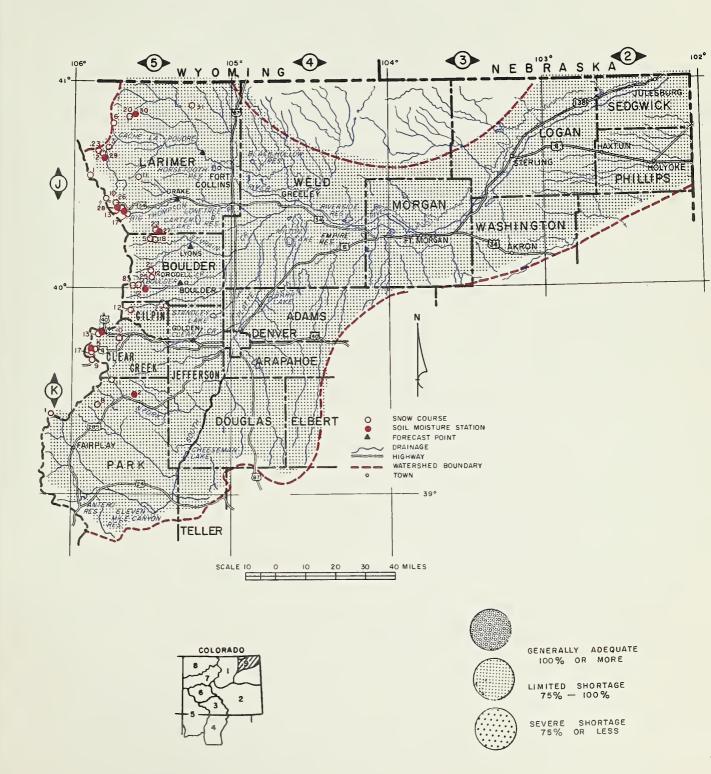
PRECIPITATION

STATION	AUGUST T NOVER AVE,		winter ADEC-Jahr.			
Upper So. Pl.		-2.55	.87	10		
Lower So. Pl.		-2.16	.73	+.01		

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

AL RED THROUGH BETTE				
STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57	
Cache La Poudre at Canon(Big Thompson at Drake (2) Saint Vrain at Lyons Boulder at Orodell Clear Creek at Golden (3)	92 172 50	79 87 86 91 91	189 106 84 55 137	

LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO



SNOW		CURRE	NT INFORMA	PAST RECORD		
SNOW COURSE		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES) LAST YEAR AVERAC 1943 - 5	
SOUTH PLATTE RIVER AND TRIBUTARIES Baltimore Berthoud Falls Big South Boulder Falls Cameron Pass (A) Chambers Lake Copeland Lake Deadman Hill (A) Deer Ridge Empire Geneva Park Grizzly Peak (B) Hidden Valley Hoosier Pass Hour Glass Lake Jefferson Creek Lake Irene (B) Long's Peak Lost Lake Loveland Pass Loveland Lift No. 1 Pine Creek Red Feather Two Mile University Camp Ward Wild Basin	5K23 5K13 5J3 5J25 5J1 5J2 5J18 5J10 5K11 5K9 5J11 5K8 5J10 5J22 5J23 5K5 5K24 5J31 5J20 5J26 5J26 5J21 5J20 5J26 5J21 5J20 5J26 5J21 5J20 5J25	2-28 2-28 2-23 2-26 NS 2-23 2-26 NS 2-27 2-28 2-28 2-28 2-27 2-27 2-27 2-27	22 37 13 38 27 14 16 18 12 49 34 35 26 61 32 35 40 58 52 42 50 19 39	6.0 9.5 2.9 10.7 7.4 4.0 2.6 12.4 8.2 8.4 5.3 15.9 7.1 11.1 14.7 1.2 5.3 10.3 15.1 4.4 9.6	9.4 15.9 2.5 6.6 NS 10.3 2.7 NS 8.0 10.0 4.3 19.1 13.0 13.5 7.1 11.0 26.0 9.4 15.1 16.3 27.1 1.8 6.8 19.0 20.6 5.9 18.4	11.8* 2.2 10.3* 18.0 7.0 4.9* 12.2 4.9* 5.0* 3.8* 14.9 9.4 10.0 6.6 7.5 18.6 10.1* 10.4* 12.5 6.9 11.9* 17.7 5.6* 11.9

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY

(A) - AIR OBSERVED

(B) - ON ADJACENT DRAINAGE

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